THEDE MOHR HIGHHOUSE V. UNITED STATES OF AMERICA
CIVIL ACTION NO: 1:14-CV-00140-JMH

Exhibit Q

March 25, 2016 Life Care Plan of Thede Highhouse
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LIFE CARE PLAN
Thede Highhouse
March 25, 2016

Introduction:

At the request of Attorney Christina S. Nacopoulos a Life Care Plan has been prepared for Mr. Thede Highhouse, a 60 year old man who suffered a traumatic brain injury from a ruptured basilar tip aneurysm that occurred on January 30, 2012. Dr. Romero at Saint Vincent Hospital treated this with coil embolization. Mr. Highhouse required repair of an anterior communicating artery aneurysm on 4/17/12 and due to recanalization of the basilar tip aneurysm he required recoiling of that aneurysm on 5/9/13 and again on 1/21/14. Thede Highhouse continues to experience the effects of the ruptured aneurysm to date. He has numerous physical, cognitive and emotional/behavioral symptoms related to the brain injury that affects him on a daily basis. His pre-injury life has been dramatically changed, limiting his ability to work and socialize, reducing his level of independence, and significantly affecting his quality of life. The following Life Care Plan has been developed following review of extensive medical records and reports, meeting with Thede Highhouse at his home, and relying on the expert reports / recommendations of Richard Bonfiglio, MD (2/18/15 – Physical Medicine and Rehabilitation), Michael Schwabenbauer, PhD (10/9/15 - Neuropsychology), Eric McDade, DO (6/9/15 – Cognitive Neurology), and review of the 5/22/15 deposition of Mr. Highhouse's treating neuro-interventionalist Charles E. Romero, MD. I have also reviewed the 12/11/15 Neuropsychological Evaluation by defense expert John C. Hecker, Psy.D., as well as the depositions of Mr. Highhouse (12/16/15), Jennifer Jones, P.A. (12/15/15) and Dr. Michael Orinick, III (12/15/15). Based upon this information, the lifetime needs of Mr. Highhouse have been outlined within the accompanying Life Care Plan charts, along with the associated costs. Items / services included are directly related to the needs resulting from the 2012 ruptured aneurysm. Pricing is based upon current pricing and no calculations have been made for future inflationary increases over time. As supported by Dr. Bonfiglio in his report, a normal life expectancy has been used for lifetime cost calculations.

Records Reviewed and Other Pertinent Sources of Information:

2/4/16 MR Angio with contrast
12/23/15 Visit with Thede Highhouse at his home
12/16/15 Deposition of Thede Highhouse
12/15/15 Deposition of Jennifer Jones
12/15/15 Deposition of Michael Orinick, III, MD
12/11/15 Defense Neuropsychological Evaluation by John C. Hecker, Psy.D
10/9/15 Neuropsychological evaluation by Michael Schwabenbauer, PhD
8/19/15 Deposition of Sheryl Russ, DO
7/23/15 Letter by Charles Ramsey, Chief Harborcreek Fire Department

6/9/15 Consultation Report by Eric McDade, DO
5/22/15 Deposition of Charles E. Romero, MD
2/18/15 Physical Medicine and Rehabilitation Evaluation by Richard P. Bonfiglio, MD
1/26/15 UPMC Hamot – Cerebral Angiogram
10/29/14 Office notes of Charles Romero, MD
10/29/14 UPMC Hamot MR Angio Head
10/21/14 UPMC Hamot Brain MRI
2/13/14 Letter by Charles Romero, MD
1/21/14 – 1/23/14 UPMC Hamot Hospital records
12/16/13 UPMC Hamot Cerebral Angiogram
11/26/13 – 4/25/14 Erie V A records
10/31/13 – Office notes of Charles Romero, MD
9/6/13 UPMC Hamot note
9/4/13 Office note by Jeffrey Esper, DO
8/12/13, 8/15/13 Evaluation by Glenn Bailey, PhD (Bureau of Disability Determination)
8/8/13 Saint Vincent Health Center MRA head
6/21/13 – 11/12/13 Erie V A records
5/14/13 – 5/18/13 Saint Vincent Health Center records
5/9/13 – 5/11/13 Saint Vincent Health Center records
4/4/13 Saint Vincent Health Center Emergency Department
3/19/13 Saint Vincent Health Center Angiogram Head; MRI Brain
2/26/13 – 6/4/13 Erie V A records
1/30/13 VA Jacksonville FL records (SW and PCP)
1/23/13 VA Miami records (SW)
9/9/12 Saint Vincent Health Center MRA Head
5/9/12 Office note of Dr. Romero
4/17/12 – 4/19/12 Saint Vincent Health Center
3/22/12 Psychiatry report by Matthew Meyer, MD, VA Erie
2/23/12 Saint Vincent Health Center
2/23/12 Emergycare
2/22/12 – 1/28/13 Erie V A Medical Center records
1/30/12 – 2/9/12 Saint Vincent Health Center
1/30/12 Emergycare
2/4/11 Saint Vincent Health Center - MRI Brain; MRA Head
4/11/05 Records pertaining to motorcycle accident Mr. Highhouse was involved in
Complaint filed 5/12/14
Defense Investigators report (not dated) referring to 6/11/15 – 1/27/16 surveillance
Social Security Disability Determination records
Medical billing records
National Vital Statistics Reports, Vol. 64, No.11, 9/22/15, Table 5
Genworth.com – 2015 Cost of Care Survey
AMA Current Procedural Terminology, 2015 (CPT)
PMIC Medical Fees, 2015

Medical Overview:

On 1/22/11, Mr. Highhouse fell while skiing, hitting his head and injuring his left arm. He was evaluated by the ERI Emergency Care Unit (V.A.) and found to have a wrist fracture requiring a closed reduction. A head CT scan on 1/22/11 revealed *"apparent focal enlargement of the top of the basilar artery which is worrisome for a bailar tip aneurysm. This should be further evaluated with a MRA of the intracranial vessels."* A 2/4/11 Brain MRI (with and without contrast) and MR Angio of the Head was ordered by Lydia J. Maring, CRNP, of the V.A. and performed at Saint Vincent Health Center, revealing a *"rather large basilar tip aneurysm and possible anterior communicating artery aneurysm."* Mr. Highhouse received medical follow up at the V.A. for his left wrist fracture and his case was removed on 3/6/11. Mr. Highhouse had several medical visits at the V.A. in Erie PA during the remainder of 2011:

- 3/17/11 VA Emergency Room visit for abdominal pain
- 3/24/11 VA visit with Lydia Maring, CRNP for left sided jaw pain and swelling
- 10/20/11 VA visit with David Lavin, MD for swelling of left lower jaw with a diagnosis of dental infection

On 1/24/12, Mr. Highhouse presented to the Emergency Room at the V.A. for complaints of headache and abdominal pain. A head CT scan on that date noted a focal enlargement of an acute intracranial abnormality with recommendations for an MR Angiogram of the brain. An abdominal CT scan identified small renal calculi, multiple mildly enlarged lymph nodes, slight thickening of the gallbladder wall and small left adrenal adenoma. On 1/25/12 he was seen in the Emergency Room at the V.A. for toothache and abdominal pain. His jaw pain was radiating into his right temple area and was described as "throbbing". He was discharged to home and advised to follow up with his medical provider Lydia Maring. On 1/30/12, Mr. Highhouse again presented to the V.A. Emergency Room with severe headache, neck pain and nausea. His headache was reported to be worse with light, he had spots in the upper visual field, and he vomited three times. Mr. Highhouse also reported numbness in his legs and falling when trying to get out of bed. A head CT revealed an acute subarachnoid hemorrhage likely related to the 8 mm aneurysm of the basilar tip. He was transferred to Saint Vincent's Health Center and was admitted to the ICU. On 1/30/12 Dr. Romero performed CT angiography and recommended / performed coil embolization of the ruptured basilar tip aneurysm. Dr. Romero's procedure report indicated the aneurysm size at that time to be 13x12x11 mm and the neck 5.3 mm. Neurosurgical consultation was provided by Dr. Brain Dalton on 1/31/12, at which time Thede Highhouse continued to report headaches and photophobia. Dr. Dalton recommended that he follow the patient to determine if future neurosurgical intervention would be warranted. Mr. Highhouse developed hyponatremia (cerebral salt wasting syndrome) likely related to the aneurysm and subarachnoid hemorrhage (SAH). Mr. Highhouse was also noted to develop atrial fibrillation during this hospitalization necessitating cardiology consultation. Urology was also consulted due to problems with voiding and urinary retention. A Foley catheter was retained and medications (Flomax and Proscar) were recommended. On 2/9/12 Mr. Highhouse was discharged to home.

Records reflect that Thede Highhouse reported having problems with memory, headaches, blurred vision, loss of concentration / reduced attention, and financial difficulties following the aneurysm rupture. He was seen at the V.A. by medical staff, social work, speech therapy, and behavioral health during February and March 2012. He also required medical follow up for urological problems associated with the Foley catheter, which was removed and replaced by

intermittent catheterization. He had multiple V.A. Emergency Room visits for problems related to headache, depression, and inability to void. On 2/27/12 he was re-assessed by Dr. Romero at which time the findings of a second aneurysm at the anterior communicating artery was discussed. Dr. Romero recommended treatment of that aneurysm to Mr. Highhouse, following additional time for recovery from the initial coil embolization.

Records describe that Mr. Highhouse was not only having ongoing headaches, but was also reporting depression, financial difficulties from being unable to work, stress from worrying about his medical condition, and cognitive changes. A speech therapy consultation at the V.A. on 3/7/12 noted increased hearing impairment following the ruptured aneurysm, memory problems, and mild to moderate impairment in information processing. A 3/16/12 behavioral health evaluation at the V.A. noted problems with short term memory, concentration, depression and anxiety. A V.A. psychiatrist evaluated Mr. Highhouse on 3/22/12 and diagnosed mild cognitive impairment, impaired short term memory, mood disorder and anxiety disorder. Psychological counseling / therapy was recommended. Urological problems improved by the end of March, and hyponatremia resolved, as did the atrial fibrillation.

Dr. Sheryl Russ assumed the primary medical care of Thede Highhouse at the V.A. on 3/30/12. He was prescribed a PDA by speech therapy for problems with memory. On 4/17/12, Dr. Romero performed a second coil embolization of the anterior communicating artery aneurysm at Saint Vincent's Health Center. Mr. Highhouse continued to report problems with headaches and memory. Treatment of a dental abscess had to be carefully coordinated with Dr. Romero due to medications and blood thinners specifically.

On 5/9/12, Dr. Romero reported interval assessment of Thede Highhouse noting that he was anxious to return to work. Dr. Romero described his recommendations for ongoing medical management: 6 month MRA follow up in October 2012, skull x-rays in 6 months, and if no aneurysm growth or recanalization is noted at that time a 1 year cerebral angiogram should be performed. *"Should everything remain stable, I will continue on a yearly basis MR angiography"*. On 7/9/12 Dr. Romero again re-evaluated Mr. Highhouse recommending repeat cerebral angiography. At the 8/29/12 follow up with Dr. Romero, he reported that Mr. Highhouse was reporting worsening headaches, with associated vision changes (blurriness with kaleidoscope or prism pattern at times) and nausea and occasional vomiting. Headaches were reported to be 2 to 3 times per week. Some vertigo and light-headedness was also reported. An MR Angiogram was performed by Dr. Romero on 9/9/12 and he described small evidence of residual compartment near the posterior neck region of the basilar aneurysm which represents a small outpouching. Dr. Romero recommended close monitoring for 6 months with a repeat MR angiogram at that time.

Thede Highhouse continued to report having frequent headaches and depression to his medical providers: 1/23/13 V.A. social worker, 2/20/13 Dr. Mlkvy Miami V.A., 2/26/13 Christine Beers and Dr. Sheryl Russ, Erie V.A. On 3/5/13, Dr. Romero again evaluated Mr. Highhouse and at that time worsening headaches were reported. Verapamil SR was prescribed, along with oxygen, and Celexa. Dr. Romero scheduled repeat MR angiography.

At the V.A. Mr. Highhouse was referred to the brain injury team, specifically physical medicine and rehabilitation physician Michael Orinick, MD, on 3/11/13. Cluster headaches were described, as well as episodes of syncope. Persistent neck and headache, kaleidoscope effect with his vision at times, poor sleep, occasional buckling of his legs were reported by Mr. Highhouse. Dr. Orinick diagnosed: status post aneurysm bleed / sub arachnoid hemorrhage with coiling procedure and residual neurologic problems. He recommended referral to audiology for hearing evaluation, optometry for visual complaints, and neuropsychological evaluation after speech therapy evaluation for post-concussion symptoms of memory problems and other cognitive issues. Dr. Orinick noted hyperreflexia in the arms when examining Mr. Highhouse and indicated that combined with the complaints of neck pain and recent fall with a syncope event should be further evaluated with cervical spine MRI, although it may also be a residual from the brain bleed. Cervical spine x-rays done on that date revealed mild grade 1 C4-C5 retrolisthesis, C4-C7 moderate degenerative disc disease, and severe right-sided foraminal narrowing of C3 – C6.

On 3/11/13 Mr. Highhouse was also seen by his PCP at the V.A. Dr. Russ and she ordered MRI/MRA of the brain and MRI of the cervical spine. On 3/19/13 the MRA and MRI were performed at Saint Vincent's Health Center and an abnormality was identified: recanalization of the basilar tip aneurysm with irregular flow signal change at the basilar tip. The cervical spine MRI reported mild degenerative changes the moderate right foraminal stenosis at C3-C4 and bilateral moderate foraminal stenosis at C5-C6, moderate left foraminal narrowing at C6-C7. In follow up with Dr. Romero on 4/2/13, he recommended recoiling of the aneurysm that was then performed by Dr. Romero at Saint Vincent Health Center on 5/9/13. Mr. Highhouse was discharged from the hospital on 5/11/13. On 5/14/13, he presented to the V.A. with post surgery right abdominal pain. During his hospitalization he had several episodes of vomiting and continued to have abdominal pain. He was transferred to Saint Vincent's Health Center for this pain and possible obstruction. A large retroperitoneal hematoma involving the right psoas muscle was identified. His treatment for the hematoma was complicated by the need to keep him on Plavix post-coil surgery. He remained stable and by 5/18/13 he was able to be discharged.

On 6/4/13 Mr. Highhouse was re-evaluated by Dr. Orinick (V.A. Brain Injury Clinic) and that report reflected that memory and vision issues were worse since the most recent aneurysm coiling. Given the report by Mr. Highhouse of syncope episodes, Dr. Orinick recommended the use of a cane at all times to help prevent falls. Dr. Romero reported at a 6/19/13 follow up visit that Mr. Highhouse had continued complaints of lightheadedness upon standing up and loss of energy. A discussion about use of a cane for stability when walking was also noted. Dr. Romero reported that the right retroperitoneal hematoma was attributed to post-procedural bleeding. A repeat MRA was performed on 8/8/13 that reflected re-demonstration of persistent partially canalized basilar tip aneurysm. On 12/16/13 Dr. Romero performed a cerebral angiogram that showed evidence of recanalization of the previously treated basilar tip aneurysm. Dr. Romero recommended and Mr. Highhouse underwent another intracranial aneurysm coil embolization on 1/21/14 performed this time at UPMC Hamot Hospital, at which time 5 additional coils were placed. As part of his ongoing medical surveillance, Dr. Romero ordered and performed the following follow up care and diagnostics: 4/2/14 Dr. Romero ordered an occipital nerve block for headache treatment, 9/4/14 follow up visit with Dr. Romero, 10/21/14 brain MRI, and 10/29/14 MR angiogram. A year later on 1/26/15, Dr. Romero performed an interval

surveillance catheter cerebral angiogram at UPMC Hamot. There was no evidence of recanalization, aneurysm growth or coil compaction of either of the two previously treated aneurysms. Records reflect that Dr. Romero recommended MRA of the brain in one year.

During 2014, it appears that medical documentation continues to reflect that Mr. Highhouse continued to have memory and concentration problems being reported.

Past medical history includes: Hepatitis C, Nephrolithiasis, history of alcohol abuse, and degenerative arthritis.

Social / Educational / Vocational Overview:
Thede Highhouse lives in Harbor Creek Township, PA in his family home. He is separated from his wife and has been married a total of four times. He reports that his wife left him the last time following the aneurysm rupture in 2012. She resides in Florida. He reports having 5 children, but has limited contact with any of them. His parents are deceased. He had been living alone until about a month or two ago, when his cousin Marjorie Beck moved in with him. During my meeting with Mr. Highhouse, his cousin Marjorie was present and offered information with regards to his current level of functioning from her perspective.

Mr. Highhouse completed 10 years of formal education and later obtained his GED while in the military. He served in the Navy for two to four years. Most of his employment history involved work as a carpenter. He also attended schooling for welding. He speaks with passion about his volunteer work as a firefighter and reported that he had a 7-year history with the Harborcreek Fire Department. According to a letter by Chief Charles Ramsey of the Harborcreek Fire Department dated 7/23/15, Mr. Highhouse was a structural firefighter, vehicle rescue technician and driver / operator of fire apparatus and ambulance. Since his aneurysm rupture, Mr. Highhouse can no longer function in all of those duties, but can still provide "general assistance". Mr. Highhouse reports that the Fire Department is like his "family" and they apparently are a significant part of his social life.

Review of Bureau of Disability Determination records reflects that Mr. Highhouse filed a claim for disability on 4/30/13 with the following conditions being noted:

- brain aneurysm
- loss of concentration
- short term memory loss
- long term memory loss
- problems with walking using a cane
- balance issues
- vision issues
- migraine headache
- depression

Following the evaluation process of Disability Determination, Mr. Highhouse was found to be disabled and awarded SSDI with a primary diagnosis of Intracranial Injury and a secondary diagnosis of Affective / Mood Disorders.

Current Status:

I met with Thede Highhouse on 12/23/15 at his home in Harborcreek, PA. His cousin Marjorie Beck was present during our meeting and she is currently living with him. She describes that she provides daily assistance to her cousin. Mr. Highhouse reports that he has headaches almost daily over the past 2 months (which is more frequent than it had been in the past year). He believes that his stress level has been greater and that may be affecting the headache increase. He reports that several things appear to affect his headaches: sleep, hydration and stress. His headaches are described as having several variant forms: 50% of the time he has a "dull, underlying headache" and then he gets severe pain: "like a spike through the top of my head and through to the back of my head". His headaches also affect his vision and "he sees things" that are not there. He has had visual hallucinations of "seeing ferrets that are not there". He reports that he fears this will affect his ability to drive.

Mr. Highhouse describes balance problems and does fall "on occasion". He also has bouts of dizziness that affect him. He has had one episode of passing out at home, but that was in 2013 and he has had no recent episodes. He reports having no seizures.

Cognitive problems concern Mr. Highhouse and he feels it has greatly affected his daily life, so much that he now has his cousin assist him. He reports primarily short term memory problems. "What is said or done today, I forget tomorrow." The other significant problem is staying focused on what is at hand. He has difficulty paying attention and therefore has trouble ever finishing anything he starts. Examples of cognitive problems were given by both Mr. Highhouse and his cousin: He forgets he has started preparing food / leaves it in the oven or on the stove to burn; he starts to clean up a room and never completes the task because he moves on to something he comes upon; he frequently forgets to take his pills or to remember if he took his medication (although he does use a pill minder); he loses track of time and dates; dishes were piled up and never washed; he follows no schedule or routine without prompting.

Mr. Highhouse also describes having the sensation of "pins and needles" in his hands and on the back of his legs. This started after the aneurysm rupture. He also reports that he has been depressed and anxious, but feels that he is "stable now" on the current medications. According to his cousin, his moods seem to change quickly and he may be happy one minute and then yelling at you the next. She describes that he has occasional agitation, but is less depressed now. He does sleep a lot and they believe this is caused by the medications. He reported to me that prior to the events of January 2012, he never took any regular medications.

His current medications include: hydrocholorothiazide 12.5 mg, clopidogrel bisulfate 75mg, verapamil hcl 240mg, citalopram hydrobromide 40mg. He described " a medication" being given to him to help with headaches, but he could not follow the instructions on how to take them. (It would appear from review of the records, that Dr. Romero prescribed a Medrol dose pack for severe headache.)

Dr. Romero currently sees him once a year for aneurysm surveillance. He is followed at the VA by his PCP twice a year, unless he has problems requiring an additional visit. He is not currently receiving any therapy.

In talking about his current life, Mr. Highhouse stated that caring for his pet dog and cats and the local Fire Department where he used to much more actively volunteer are the things he appreciates most and can still participate in. The Fire Company seems to be his most significant social outlet and he continues to spend time there, but "cannot go near a fire" anymore. He reflects that now, since the aneurysm rupture, much of his time is spent at home and his level of physical activity and socialization has been significantly reduced. Prior to his health issues, Mr. Highhouse reports that he was a very active individual, in addition to enjoying outdoor activities such as skiing, kayaking, fishing, hiking and working on his house and property.

On 2/18/15, Dr. Richard Bonfiglio, Physical Medicine and Rehabilitation physician, evaluated Mr. Highhouse and I refer the reader to his recommendations, which have been used as a foundation for services included in the Life Care Plan. He has reported that a normal life expectancy is projected for Mr. Highhouse should the recommendations outlined within his report be followed / provided for.

On 6/9/15, Dr. Eric McDade also evaluated Mr. Highhouse from a cognitive neurology perspective. His report reflects consistent descriptions of ongoing problems reported by Thede Highhouse as: cognitive abilities, a sense of persistent difficulties with balance, as well as ongoing headaches. According to Dr. McDade: *"but on cognitive testing today he continues to demonstrate clear difficulties with verbal greater than nonverbal learning and memory. Of note the patient's cognitive pattern today is concerning for a contributing component of difficulties with attention, likely associated with some attentional deficits, which could be associated with the patient's area of subarachnoid hemorrhage.."*. Dr. McDade noted mild symptoms of depression and reported that Mr. Highhouse's description of visual symptoms are most likely related to the subarachnoid hemorrhage, as well as detecting "*some ongoing symptoms of mild misalignment of ocular motor system*". Given the cognitive symptoms, Dr. McDade recommended a full neuropsychological evaluation be performed and noted that Mr. Highhouse may benefit from treatments such as stimulants, dopaminergic medication and possibly acetylcholinesterase inhibitor medication. He also recommends that close neural interventional follow up occur, in addition to the consideration of a neurologist specializing in headache management.

On 10/5/15 Michael Schwabenbauer, PhD, performed neuropsychological testing of Mr. Highhouse (10/9/15 report). His report states: *"review of the current pattern of findings, in conjunction with the records obtained and clinical interview reveals significant cognitive impairment including measures of delayed verbal recall. Scores reflect significant compromise on a number of encoding and retrieval measures. Notable slowing is also noted in terms of processing speed."* Dr. Schwabenbauer reported: *"Findings also reflect significant compromise on measures of more complex attention including sustained attention, persistent inattentiveness and impaired vigilance. These are also quite consistent with the clinical picture and likely serve to exacerbate underlying memory compromise"*. Testing also identified significant depression and anxiety. According to Dr. Schwabenbauer, his cognitive symptoms are consistent with the diagnosis "Cognitive Disorder NOS" secondary to the aneurysm bleed and subarachnoid hemorrhage. He recommended a medication trial of a cholinesterase inhibitor and described a concern with early onset dementia symptoms. Follow up neuropsychological evaluation was recommended in 1 to 2 years for comparative analysis. Despite a history of previous concussion

and likely diagnosis of a learning disability Dr. Schwabenbauer opines: *"It is likely the hemorrhage, which occurred in 2013 as documented, is a significant contributing factor to these test finding and his current level of cognitive, behavioral and emotional functioning"*. (Please note that the hemorrhage occurred in 2012.)

On 12/11/15 John Hecker, Psy.D. performed another neuropsychological evaluation of Mr. Highhouse, this time at the request of the defense. Dr. Hecker reported test results showing moderately impaired learning, severely impaired delayed recall with average delayed recognition (suggesting intact encoding but poor retrieval), and average measures of executive functioning. On mood and personality testing, Mr. Highhouse reported significant symptoms of anxiety and depression. Dr. Hecker reported: "*largely intact cognitive functioning but with impairments demonstrated in auditory verbal memory and below average performance on some measures of processing speed*".

Records reflect that on 2/4/16, Mr. Highhouse underwent the annual brain MRA recommended by Dr. Romero. By report, I understand from Mr. Highhouse that he also underwent another brain MRI on 1/28/16, although I do not have that report to review and have not had an opportunity to review the most recent office note of Dr. Romero.

Summary and Recommendations:

Thede Highhouse is a 60-year-old man who suffered a ruptured aneurysm on 1/30/12. Apparently this aneurysm had been seen on diagnostic testing a year previous, but no referrals were made for further treatment / intervention until such time that the rupture and intracranial bleed occurred. Mr. Highhouse has had consistently reported deficits documented throughout the medical records: chronic headache, chronic cognitive deficits affecting primarily short term memory and attention/concentration, and mood disorder involving depression and anxiety. He additionally has had intermittent problems with vision, dizziness, balance and sensory symptoms in his extremities. Since the rupture, Mr. Highhouse went on to require four separate surgical interventions, all performed by his treating specialist Charles Romero, MD:

- 1/3/2012 Coil embolization of a ruptured basilar tip aneurysm
- 4/17/12 Stent-assisted coil embolization of an anterior communicating artery aneurysm
- 5/9/13 Coil embolization of a re-canalized basilar tip aneurysm (after discharge from this surgery, he required re-admission due to complications of a retroperitoneal hematoma)
- 1/21/14 Coil embolization of the re-canalized basilar tip aneurysm

As noted in Dr. Romero's medical records and in his deposition, Mr. Highhouse will require lifelong monitoring of his aneurysms. Based upon past history, this medical surveillance has included: brain MRIs, brain CT scans, MR angiograms of the brain (MRAs), and cerebral angiograms. Dr. Romero has reported that he recommends annual angiography over the next 5 years and if no re-canalization of the aneurysm(s) are seen, this may then be reduced in frequency to every 3 to 4 years. Review of past utilization seems to reflect MRIs paired with angiography and Dr. Bonfiglio has recommended that both occur on an annual basis. At the writing of this report, it cannot be known whether or not Mr. Highhouse will again experience increased symptoms indicative of aneurysm re-canalization and if that indeed occurs, additional testing will be needed and he again may require another surgical re-coiling procedure. For the reader's information, the most recent costs for the latest repeat coil embolization was:

- Coil embolization surgery – Professional charges $9727 and Facility charges $61,141 (based on 1/21/14 billing records of Dr. Romero and UPMC Hamot)

Although those potential costs are not included in the Life Care Plan, given the history of Mr. Highhouse over the past 4 years with three subsequent recanalizations, these additional costs should certainly be taken into consideration.

Within the accompanying Life Care Plan, I have included the recommended medical interventions and treatment including physician visits, medications and diagnostics. Additionally, Dr. Bonfiglio, a rehabilitation physician, has recommended additional therapeutic interventions. This includes counseling services, cognitive / speech therapy, and intermittent physical therapy interventions. Also, given Mr. Highhouse's cognitive limitations combined with his physical limitations (caused by headache, balance, dizziness, and heavy lifting limitations), he is in need of in-home assistance / supervision and cuing. Although currently his cousin has again moved in with him and is assisting him, it is recommended that an agency-based home health aid or certified nursing assistant provide him daily help, supervision, and direction for 2 to 4 hours each day. Mr. Highhouse's descriptions of chronic memory and attentional problems have been supported by evaluations by Dr. Schwabenbauer and by Dr. McDade. Additionally, Mr. Highhouse may benefit from the services of a neurologist with headache specialization, as well as consideration for trial of medication (s) that may improve his problems with attention / concentration. A normal life expectancy of **21.6 years** (National Vital Statistics Reports, Vol. 64, No. 11, 9/22/15, Table 5) has been used for lifetime cost calculations based upon the opinion of Richard Bonfiglio, MD.

Attached please find the Life Care Plan charts outlining recommendations drawn from Dr. Bonfiglio, Dr. Schwabenbauer, Dr. McDade, and from Dr. Romero. A summary of the charts is as follows:

Summary of Life Care Plan: Thede Highhouse
(Pages 12 - 18)

Projected Evaluations (page 12):	$2,655.00
Projected Therapies (page 13):	$35,806.00 - $62,206.00
Diagnostic Testing (page 14):	$420,083.00 - $766,286.00
Medications (page 15):	$57,802.00
Future Medical Care (page 16):	$18,558.00
Aids for Independent Function (page 17):	$2,190.00
Home Care (page 18):	$557,886.00 - $1,082,172.00

Lifetime subtotal: $1,094,980.00 - $1,991,869.00

All opinions and recommendations are held to a reasonable degree of certainty as a certified life care planner, certified case manager, certified rehabilitation counselor and as a professional with over thirty five years of experience in the field of brain injury rehabilitation. The Life Care Plan is submitted to Richard Bonfiglio, MD, for review and approval. Should changes be recommended to the Life Care Plan by Dr. Bonfiglio, I reserve the right to make those

modifications. This report is subject to amendment should additional information become available.

Respectfully submitted,

Heidi L. Fawber

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LIFE CARE PLAN

Projected Evaluations

Client Name: Thede Highhouse
Date of Birth: 8/23/55
Date of Onset: 1/30/12
Date Prepared: 3/25/16

Evaluation	Initiated	Suspended	Frequency	Base Cost	Lifetime Cost
Neuropsychological re-assessment* CPT 96118 – 5 hours	2017	One time	One time	$1530	$1530
Neuro-ophthalmology evaluation** CPT 99204, 92081	2016	One time	One time initial assessment	$331 + $160 = $491	$491 (may be greater in cost with additional testing)
Speech therapy / cognitive therapy evaluation** CPT 92523	2016	One time	One time initial assessment	$303	$303
Neurology – Headache specialist evaluation; CPT 99204	2016	One time	One time to initiate treatment	$331	$331
				Subtotal:	**$2,655.00**

**Recommended by Dr. Schwabenbauer – Pricing source: Medical Fees, 2015, for PA 75th UCR*

***Recommended by Dr. Bonfiglio; Evaluation by a neuro-ophthalmologist may involve several specialized tests that will only be determined when the clinician sees Mr. Highhouse. It is most likely that he will need to travel to either Pittsburgh or Buffalo NY to be evaluated.*

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LIFE CARE PLAN

Projected Therapeutic Modalities

Client Name: Thede Highhouse
Date of Birth: 8/23/55
Date of Onset: 1/30/12
Date Prepared: 3/25/16

Therapy	Initiated	Suspended	Frequency	Base Cost	Lifetime Cost
Speech therapy / cognitive therapy * CPT 97535	2016	2016	One time intervention to implement in-home cognitive strategy use; Weekly session x 6 months (24 sessions)	$208 per hour; $4992 per intervention	$4992
Psychology / counseling ** (anxiety, depression, adjustment to disability) CPT 90834	2016	2016	Weekly session x 6 months (24 sessions)	$158 per session; $3792 per intervention	$3792
Physical therapy interventions (balance, coordination, fall prevention, strengthening) **	As needed	Life expectancy	4 to 6 lifetime interventions (16 to 36 sessions per intervention)	$4406 - $9686 per intervention	$22,030 - $48,430 (5 lifetime interventions)
Long term Speech therapy / cognitive therapy CPT 97535	As needed to coincide with training on new PDA or ECD purchase		4 future interventions 6 sessions per intervention	$208 per hour; 6 sessions per intervention @ $1248	$4992
				Subtotal:	**$35,806 - $62,206**

**Mr. Highhouse has been provided with some brain injury rehabilitation treatment and speech therapy through the VA. A PDA was provided to him, but he was unable to use it successfully, most likely due to limited hands-on instruction. With brain injury related cognitive symptoms, use of compensatory devices such as PDAs and daily planners are significantly improved with "hands-on" and in-home training. This is recommended / supported by Dr. Bonfiglio and is based upon my years of experience in brain injury rehabilitation. **Recommended by Dr. Bonfiglio; Pricing – Medical Fees, 2015, for PA, 75th UCR. PT evaluation CPT 97001 @ $182, therapeutic exercise CPT 97110 x 2 units @ $134 + neuromuscular re-education CPT 97112 x 2 units @ $130 = $264 per typical PT session.*

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LIFE CARE PLAN

Diagnostic Testing

Client Name: Thede Highhouse
Date of Birth: 8/23/55
Date of Onset: 1/30/12
Date Prepared: 3/25/16

Diagnostic Recommendation	Initiated	Suspended	Per Year Frequency	Base Cost Per Year	Lifetime Cost
CBC, CMP, Creatinine clearance, Urinalysis, Urine culture *	Ongoing	Life expectancy	Twice a year	$267 each testing; $534 per year	$11,214
Cerebral Angiogram CPT 36226, 36224 **	Ongoing Begin 2017	Life expectancy	Yearly	$4050 professional $27,423 facility $31,473 total per procedure	$283,257 - $629,460
MRI brain CPT 70551 *	Ongoing Begin 2017	Life expectancy	Yearly	$420 professional $5491 facility $5911 total per MRI	$118,220
Pre-operative testing and physical exam to coincide with each MRA^	Ongoing	Life expectancy	Yearly	$352 per Pre-op physical and diagnostics	$7392
				Subtotal:	**$420,083 - $766,286**

**Yearly labs and MRI recommended by Dr. Bonfiglio. CBC (CPT 85027 @ $40), CMP (CPT 80053 @ $74), Creatinine clearance (CPT 82575 @ $55), Urinalysis (CPT 81000 @ $22), Urine culture (CPT 87086 @ $56), and venipuncture (CPT 36415 @ $20) = $267 per testing. MRI pricing based on 10/21/14 UPMC Hamot billing.*

***Recommended by Dr. Romero and pricing based on most recent procedural billing in 2015. Yearly repeat testing would total $660,933, but if no recanalization occurs over the next 5 years, this could be reduced to every 3 – 4 years (per Dr. Romero deposition), totaling $314,730.*

^Pre-operative evaluation includes physical exam (CPT 99213 @ $141), chest x-ray (CPT 71010 @ $128) and EKG (CPT 93000 @ $83) = $352 . Labs required for yearly pre-operative work up are included in twice yearly diagnostics.

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LIFE CARE PLAN

Drug/Supply Needs

Client Name: Thede Highhouse
Date of Birth: 8/23/55
Date of Onset: 1/30/12
Date Prepared: 3/25/16

Medications	Purpose	Supply Description	Per Unit Cost/Month	Per Year Cost	Lifetime Cost
Hydrochlorothiazide 12.5mg (1)	Diuretic / blood pressure		#30 tabs per month @ $18	$216	$4666
Clopidogrel bisulfate 75mg (2)	Blood clot prevention		#30 tabs per month @ $143	$1716	$37,066
Verapamil HCL 240mg (3)	Blood pressure / headache		#90 tabs of 80mg @ $25 per month	$300	$6480
Citalopram hydrobromide 40mg (4)	Depression		#30 tabs per month @ $25	$300	$6480
Medrol 4mg (5)	Corticosteroid / headache interrupter	This medication was prescribed for severe headache by Dr. Romero, however Mr. Highhouse was unable to manage taking it correctly without supervision	#21 tabs per dose pack @ $36 (as needed for headache); 4 doses per year for extreme headache	$144	$3110
				Subtotal:	**$57,802.00**

Cash pricing – GoodRx.com		*CVS 814-725-9684*	*Walgreen's 814-897-7871*
(1):	*$14 - $20*	*$17.89*	*$19.69*
(2):	*$92 - $270*	*$149.99*	*$142.99*
(3):	*$25*	*$26.49*	*$25*
(4):	*$25*	*$25.19*	*$28.99*
(5):	*$28 - $36*		

Pricing rounded to the neared whole dollar and based upon current prescriptions. Please note that medications are not a static item and over time, medications types and dosing will change. It cannot be determined what those changes will include at this time.

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LIFE CARE PLAN

Future Medical Care - Routine

Client Name: Thede Highhouse
Date of Birth: 8/23/55
Date of Onset: 1/30/12
Date Prepared: 3/25/16

Routine Medical Care Description	Frequency of Visits	Purpose	Cost Per Visit	Cost Per Year	Lifetime Cost
Primary care physician CPT 99213	2 per year	Health maintenance involving history of aneurysm rupture	$141	$282	$6091
Brain injury rehabilitation physician; CPT 99213	2 per year	Oversee rehabilitation needs	$141	$282	$6091
Interventional neuroradiology; CPT 99213	Yearly	Monitor status of aneurysm coiling	$141	$141	$3046
Psychiatry; CPT 99212	4 per year (limit to 5 year intervention)	Management of mood disorder	$96	$384	$1920
Headache specialist / pain management; CPT 99213	2 per year (limit to 5 year intervention)	Management of headache and other chronic pain issues	$141	$282	$1410
				Subtotal:	**$18,558.00**

Pricing – Medical Fees, 2015, for PA 75th UCR – prices rounded to the nearest dollar

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LIFE CARE PLAN

Aids for Independent Function

Client Name: Thede Highhouse
Date of Birth: 8/23/55
Date of Onset: 1/30/12
Date Prepared: 3/25/16

Equipment Description	Age/Year at Which Purchased	Replacement Schedule	Purpose of Equipment	Base Cost	Lifetime Cost	Catalog or Supplier
Cane E0100 *	Unknown, begin 2016	Every 5 years	Fall prevention	$40 (5 lifetime replacements)	$200	No specific model identified
Shower chair E0240 *	Needed 2016	Every 5 years		$98 (5 lifetime replacements)	$490	No specific model identified
Daily planner / PDA / ECD (electronic cognitive device)**	2016 to be purchased with speech/ cognitive therapy intervention with specific training provided	Every 5 years		$300 allowance (5 lifetime replacements)	$1500	No specific model identified
				Subtotal:	**$2190.00**	

**Pricing source - VHA Chief Business Office – Reasonable Charges Data Table K, V3.18, 1/1/16*
Mr. Highhouse has been encouraged by his physicians to use a cane (ambulatory assistive device) to prevent falling. Given the history of vertigo / balance problems / dizziness, Dr. Bonfiglio has recommended that a shower chair be used to prevent falling when showering.
***Although a device was previously provided to Mr. Highhouse, he no longer has it and was never able to use it effectively at home. It is recommended that he would, indeed, benefit from some type of electronic cognitive device, but only after hands-on, in-home, real-life training and implementation is provided. Given the vast array of PDA / ECD options available, a specific price cannot currently be offered. This figure would permit the purchase of a reasonable device with appropriate apps and / or software downloads.*

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LIFE CARE PLAN

Home/Facility Care

Client Name: Thede Highhouse
Date of Birth: 8/23/55
Date of Onset: 1/30/12
Date Prepared: 3/25/16

Facility Recommendation	Home/Care Serv. Recommendations	Initiated	Suspended	Hrs/Shifts/Days of Attendance	Base Cost Per Year	Lifetime Cost
	Certified nursing assistant / home health aid *	2016 – Age 60	2025 - Age 70	2 to 4 hours per day	$21 per hour $15,330 - $30,660	$137,970 - $275,940
	Certified nursing assistant / home health aid *	2025 – Age 70	Life expectancy	4 to 8 hours per day	$21 per hour $30,660 - $61,320	$386,316 - $772,632
	Home and property maintenance ^	2016 – Age 60	2030 – Age 75	As needed seasonally	$2400 per year	$33,600
					Subtotal:	**$557,886.00 - $1,082,172.00**

**Pricing sources: Home Instead 814-746-4834; Cost of Care Survey – Genworth.com for Erie PA, 2015 data; This case manager is very familiar with the average pricing for home based care services given my role as case manager and life care planner. Some agencies, including Home Instead may charge increased hourly rates for weekends and may also charge a slightly higher hourly rate for shifts less than 2 hours. The recommendations for hours of care / assistance needed by Mr. Highhouse have been provided by Dr. Bonfiglio. Duties would include: assistance with homemaking activities, food preparation, house cleaning, laundry, shopping, organization and planning of daily tasks / activities, supervision and reminders for medication-taking, possibly driving to activities / appointments on days when he has significant headache or other symptoms limiting his ability to drive safely.*

^Mr. Highhouse resides on a wooded property with gravel driveway. He only has a wood-burning stove for heating the house and must chop his own wood to reduce costs of purchasing such. His property requires grass cutting and maintenance of a wooded area. Fall and spring cleanup activities would be considerable given the size of the property. He may also need assistance with snow removal for safe egress in/out of the house. A monthly budget of services to physically assist Mr. Highhouse with property maintenance is $200; $2400 per year.

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Verification of Review of Life Care Plan

Physician:
Dr. Richard Bonfiglio
Physical Medicine & Rehabilitation
PO Box 185
7001 Craig Lane
Murrysville PA 15668

Date:
3/25/16

Life Care Plan for Client / Patient:
Thede Mohr Highhouse
Date of Birth: 8/23/55
Date of Onset: 1/30/12
Diagnosis: Ruptured basilar tip aneurysm
Date of Life Care Plan: 3/25/16

Dear Physician,
A copy of the above referenced life care plan is enclosed. I ask that you review the life care plan, sign this form and return it to me in the enclosed envelope. This allows me to verify that you have received and reviewed the life care plan and that you are in agreement with it. Should you have recommended changes, please do not hesitate to notify me of these recommendations, so that the life care plan can be changed accordingly. Your assistance is appreciated.
Sincerely,
Heidi L. Fawber, Certified Life Care Planner

Signature of Physician

4/14/16
Date of Signature

Comments/Recommendations/Changes: